

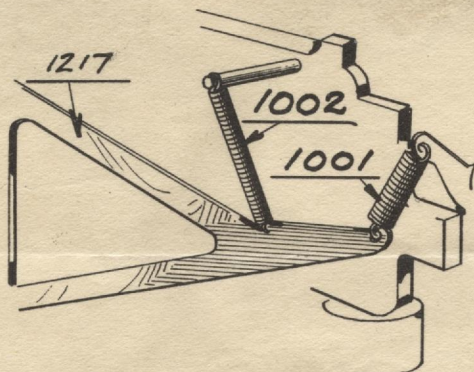
SUPPLEMENTARY BULLETIN No 40-B
1 AND 2-KAA SERIES MACHINES

CHART SHOWING POSITION OF THE SPRINGS IN THE MULTIPLIER AND AUTOMATIC DIVISION MECHANISM- AND AN EXPLANATION OF THE CONDITIONS RESULTING IF THESE SPRINGS BECOME UNHOOKED

1

IF SPRING 1002 IS UNHOOKED-

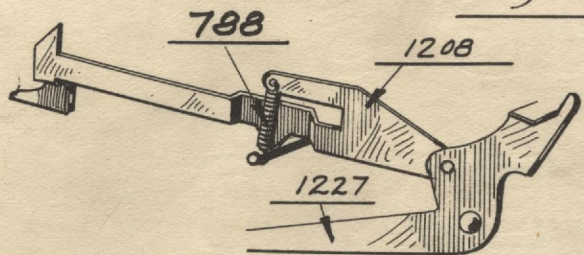
MACHINE WILL REFUSE TO SHIFT IN DIVISION AND A BIND WILL BE NOTED WHEN DEPRESSING THE MULTIPLIER KEYS. CARRIAGE WILL NOT SHIFT.



2

IF SPRING 1001 IS UNHOOKED-

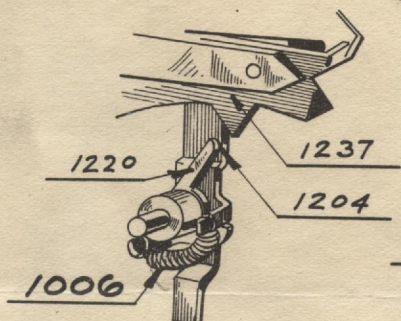
MACHINE WILL NOT SHIFT IN DIVISION OR MULTIPLICATION



3

IF SPRING 788 IS UNHOOKED-

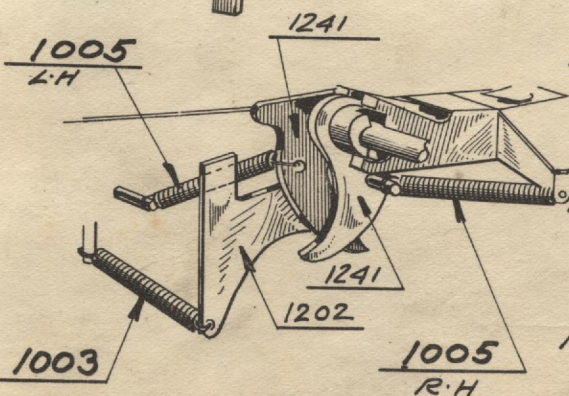
MACHINE MAY NOT CENTRALIZE WITH CARRIAGE IN LAST PLACE-OR WHEN DIVISION LEVER IS PULLED BACK. -
- ALSO IT MAY NOT CLEAR THE '9's FROM THE DIALS.
- THE MACHINE MAY ALSO JAM- WITH THE LOCATOR ARM IN FRONT OF THE CONNECTING LINK.



4

IF SPRING 1006 IS UNHOOKED-

MACHINE WILL NOT START WHEN AUTOMATIC DIVISION LEVER IS THROWN IN- NOTE- IF CARRIAGE IS IN LAST PLACE AND DIVISION LEVER IS NOT RETURNED TO NEUTRAL; THE MACHINE WILL JAM IF THE PLUS BAR IS OPERATED.



5

IF SPRING 1005 ON R.H. SIDE IS UNHOOKED-

CARRIAGE WILL NOT SHIFT IN MULTIPLICATION AND A FORCED DEPRESSION OF THE MULTIPLIER KEYS WILL BE NOTED.

6

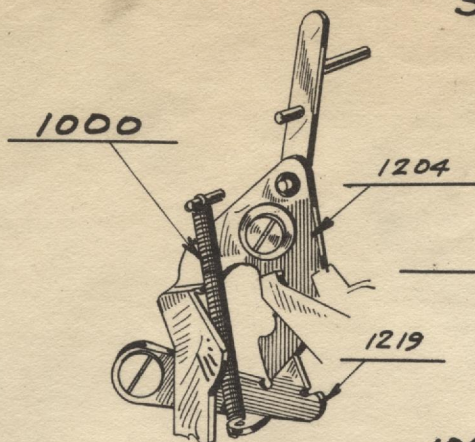
IF SPRING 1005 ON L.H. SIDE IS UNHOOKED-

CARRIAGE WILL NOT SHIFT IN DIVISION

7

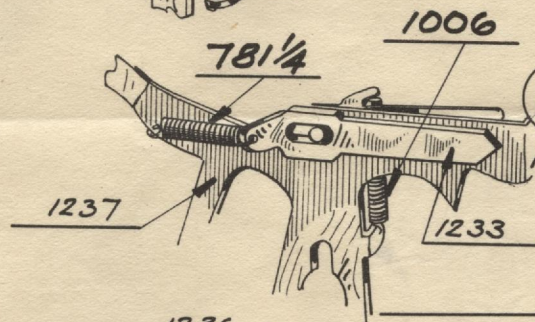
IF SPRING 1003 IS UNHOOKED-

CARRIAGE WILL FAIL TO SHIFT AT TIMES. THE CLUTCHES MAY REMAIN ENGAGED AFTER CARRIAGE HAS SHIFTED IN MULTIPLICATION. IN AUTOMATIC DIVISION- AFTER COMPLETION OF THE PROBLEM- THE CARRIAGE MAY SHIFT ONCE TO THE RIGHT.



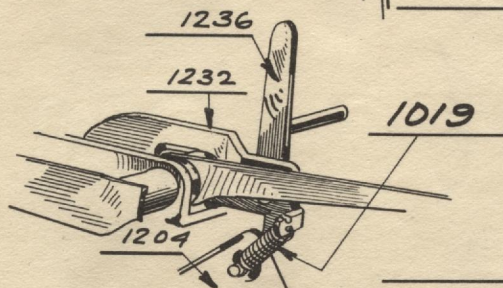
8

IF SPRING 1000 IS UNHOOKED—
 MACHINE WILL NOT START TO AUTOMATICALLY DIVIDE.
 -OR IT WILL START AND JAM AFTER DIVIDING ONCE.
 -OR IT WILL DIVIDE ONCE AND STOP.



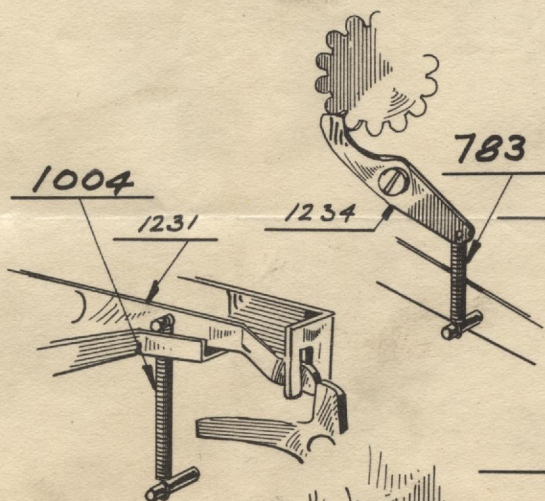
9

IF SPRING 781 1/4 IS UNHOOKED—
 MACHINE CANNOT BE STOPPED WHEN AUTOMATICALLY
 DIVIDING.



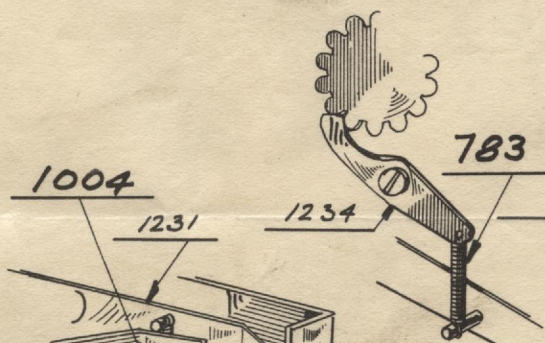
10

IF SPRING 1006 IS UNHOOKED—
 MACHINE WILL STOP OUT OF NEUTRAL AND LEAVE
 THE '9's IN THE DIALS OF THE CARRIAGE WHEN
 THE DIVISION LEVER IS RETURNED TO NEUTRAL.



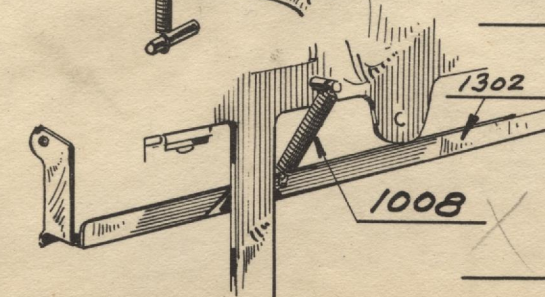
11

IF SPRING 1019 IS UNHOOKED—
 DIVISION LEVER HANDLE WILL RETURN AT ANY POSITION
 OF CARRIAGE AND MACHINE WILL STOP—NO SHIFTING
 OF CARRIAGE TAKES PLACE.



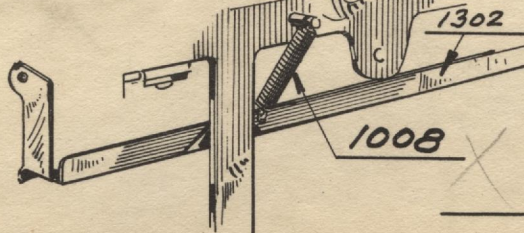
12

IF SPRING 783 IS UNHOOKED—
 TRANSMISSION WILL JAM IF THE MACHINE IS
 OPERATED.



13

IF SPRING 1004 IS UNHOOKED—
 MACHINE WILL NOT REGISTER IN AUTOMATIC DIVISION: THE
 SHIFTING WILL BE CONTINUOUS—MACHINE DOES NOT STOP
 IN MULTIPLICATION—THE CARRIAGE ONLY, WILL SHIFT.

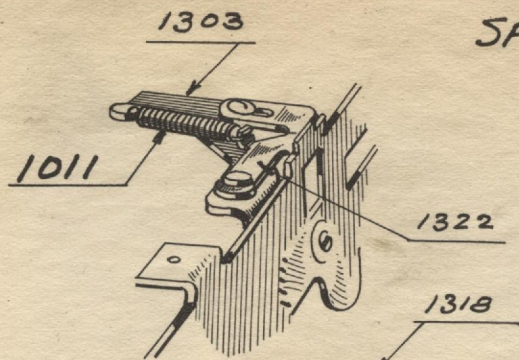


14

IF SPRING 1008 IS UNHOOKED—
 MULTIPLIER KEYS WILL BE LOCKED AND CAN NOT
 BE DEPRESSED.

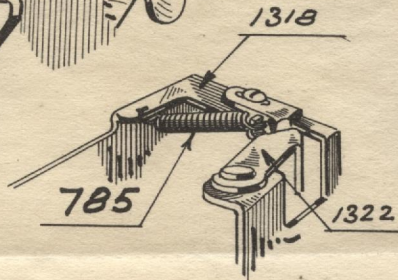
SUPPLEMENTARY BULLETIN No 40-B
SPRING CHART III

PLATE 49



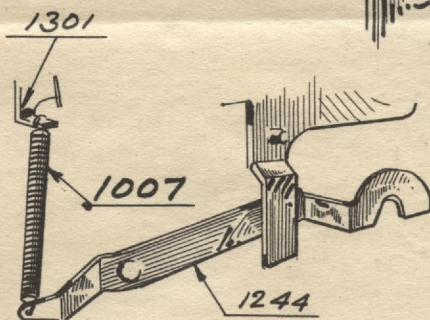
15

IF SPRING 1011 IS UNHOOKED—
WHEN ANY KEY FROM "2" TO "9" IS DEPRESSED
MACHINE WILL REGISTER MORE TIMES THAN THE DEPRESSED
KEY DENOTES.
THE "1" AND THE "0" WILL OPERATE PROPERLY



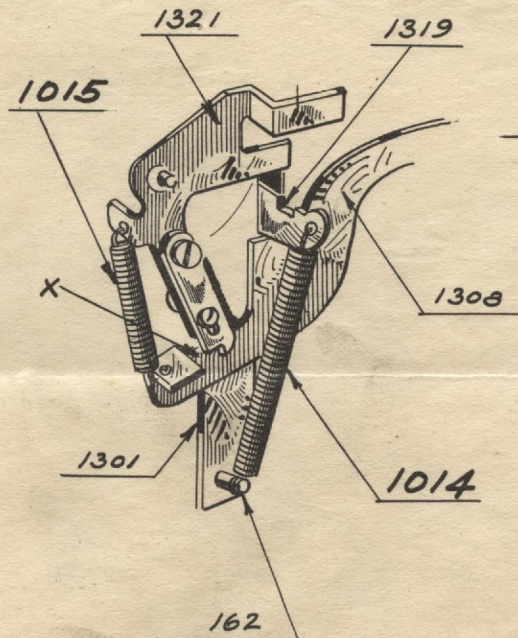
16

IF SPRING 785 IS UNHOOKED—
IF "0" KEY IS DEPRESSED—CARRIAGE SHIFTS—
MACHINE STOPS—BUT DOES NOT CENTRALIZE.
WHEN DEPRESSING "1" TO "9" KEYS, MACHINE KEEPS
ON RUNNING AND DEPRESSED KEY STAYS DOWN.



17

IF SPRING 1007 IS UNHOOKED—
DEPRESSING A MULTIPLIER KEY WILL NOT START THE
MACHINE—THE KEY STAYS DOWN HOWEVER. IF THE
PLUS BAR IS NOW TOUCHED THE MACHINE WILL
ROTATE THE NUMBER OF TIMES INDICATED BY THE KEY,
AND SHIFT THE CARRIAGE.
IF THE MINUS BAR IS TOUCHED—MACHINE WILL ROTATE
THE REQUIRED NUMBER OF TIMES BUT WILL NOT SHIFT
THE CARRIAGE.



18

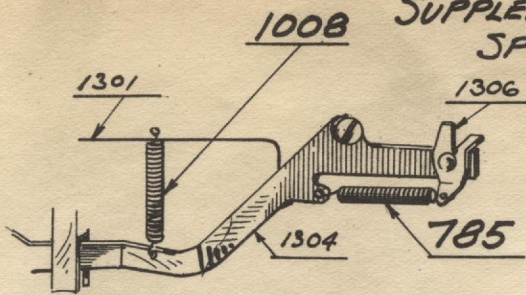
IF SPRING 1014 IS UNHOOKED—
UPON DEPRESSING A MULTIPLIER KEY THE MACHINE
WILL KEEP ON RUNNING—ALTHOUGH THE KEY WILL
RESTORE. TOUCHING THE PLUS OR MINUS BAR WILL
NOT STOP THE MACHINE UNLESS THE VIBRATION OF
THE MACHINE CAUSES AN UNLATCHING AT 'X' THIS
WILL CAUSE A CARRIAGE SHIFT.
UPON DEPRESSING A "0" KEY THE CARRIAGE WILL SHIFT
BUT THE MACHINE WILL NOT CENTRALIZE AND THE
"0" KEY SOMETIMES STAYS DOWN

19

IF SPRING 1015 IS UNHOOKED—
THE DEPRESSION OF THE "1" AND THE "0" KEY WILL
CAUSE THE MACHINE TO OPERATE PROPERLY—BUT
WHEN THE "2" IS DEPRESSED THE MACHINE ROTATES
ONLY ONCE—AND THE KEY RESTORES.
WHEN DEPRESSING THE "3" TO "9" KEYS THE MACHINE MAKES
ONE REVOLUTION—THE KEYS STAY DOWN.
THE OPERATION OF THE PLUS OR MINUS BAR WILL FINALLY RESTORE THE KEY, AND THE CARRIAGE SHIFTS.

SUPPLEMENTARY BULLETIN No 40-B
SPRING CHART IV

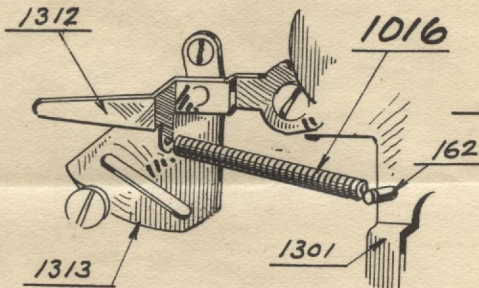
PLATE 50



20

IF SPRING 1008 IS UNHOOKED—
THE "1" TO "9" KEYS WILL OPERATE PROPERLY.
THE "0" KEY, HOWEVER, WILL REGISTER ONCE AND SHIFT
THE CARRIAGE.

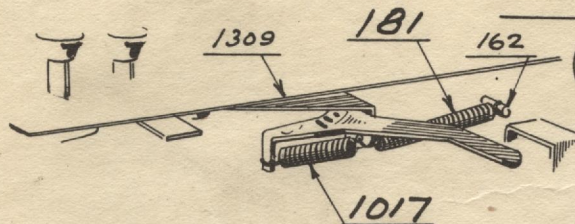
21



IF SPRING 785 IS UNHOOKED—
THE "1" TO "9" KEYS WILL OPERATE PROPERLY.
THE "0" KEY, HOWEVER, MAY REGISTER ONCE—AND
SHIFT THE CARRIAGE.

22

IF SPRING 1016 IS UNHOOKED—
THE BAIL [1247] WILL FAIL TO FUNCTION.
MULTIPLIER KEYS WILL NOT LOCK AGAINST DEPRESSION
IF THE MACHINE IS OPERATED IN ANY WAY.



23

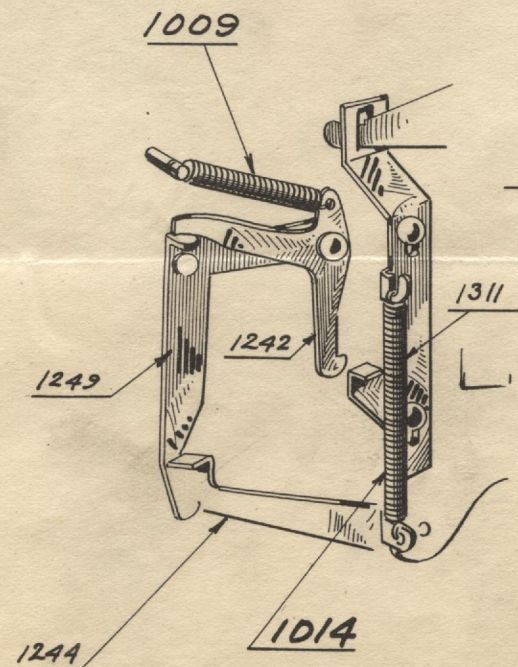
IF SPRING 181 IS UNHOOKED—
THE "1" TO "9" KEYS WILL OPERATE PROPERLY.
THE "0" KEY, HOWEVER WILL WORK PROPERLY ONLY UNTIL
THE CARRIAGE HAS BEEN SHIFTED TO THE EXTREME RIGHT
POSITION—AFTER THAT THE "0" KEY REMAINS LOCKED.
IF THE CARRIAGE IS SHIFTED AGAIN—THE VIBRATION OF THE
MACHINE MAY UNLOCK THE "0" KEY.

24

IF SPRING 1017 IS UNHOOKED—
THE "0" KEY WILL NOT LOCK WHEN CARRIAGE IS IN THE
EXTREME RIGHT POSITION.

25

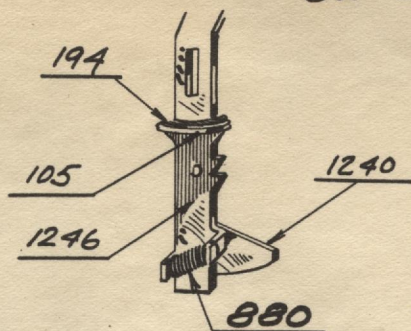
IF SPRING 1014 IS UNHOOKED—
WHEN OPERATING THE "1" TO "9" KEYS THE MACHINE
WILL NOT STOP, BUT WILL CONTINUE TO RUN UNTIL
THE VIBRATION OF THE MACHINE UNLATCHES #1321
FROM #1308
THE "0" KEY HOWEVER WILL OPERATE PROPERLY.
—ALSO THE MACHINE WILL NOT START—OR THE DEPRESSION
OF THE "0" KEY WILL CAUSE NO EFFECT.



26

IF SPRING 1009 IS UNHOOKED
UPON DEPRESSION OF THE "0" TO "9" KEYS THE MACHINE
WILL NOT START.
OPERATING THE PLUS OR MINUS BAR OR THE DIVISION LEVER
MAY CAUSE THE CLUTCH TO JAM, IN THE ADDITION POSITION.

SUPPLEMENTARY BULLETIN No 408
SPRING CHART V

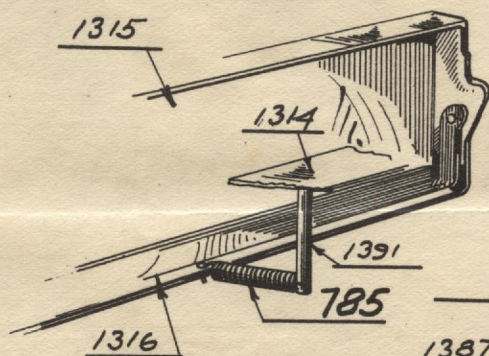


27

IF SPRING 880 IS UNHOOKED—

THE KEY ON WHICH THE SPRING IS UNHOOKED, MAY BE DEPRESSED BEFORE THE OTHER KEY HAS RESTORED CAUSING THE MACHINE TO STOP OFF CENTRAL.

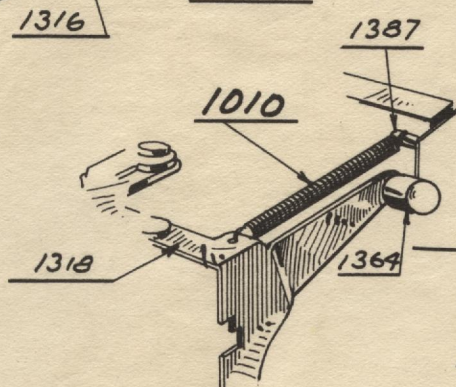
IF SPRING IS MISSING FROM THE ZERO KEY—THE MACHINE WILL SHIFT BUT THE KEY WILL REMAIN DOWN.



28

IF SPRING 785 IS UNHOOKED—

THE MULTIPLIER KEYS WILL OPERATE IF EVENLY DEPRESSED. — IF THE KEYS ARE GIVEN A SHARP SHORT BLOW HOWEVER, THE MACHINE MAY SHIFT AND NOT CENTRALIZE. — OR THE MACHINE MAY START BUT THE KEY MAY RESTORE IMMEDIATELY — OR THE KEYS NOT DEPRESSED MAY NOT BE LOCKED AGAINST DEPRESSION.

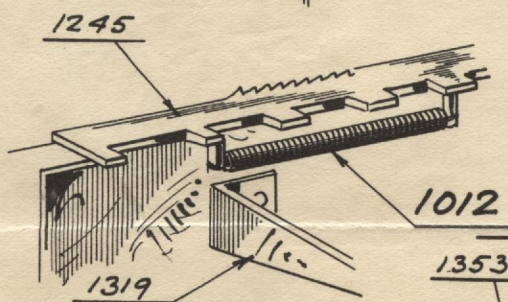


29

IF SPRING 1010 IS UNHOOKED—

MULTIPLIER KEYS AND "O" KEY MAY BE LOCKED — OR IF ABLE TO DEPRESS A KEY: — THE DEPRESSED KEY WILL NOT RESTORE — MACHINE KEEPS ON RUNNING AND CANNOT BE STOPPED UNLESS VIBRATION CAUSES AN UNLATCHING AS IN

FIG. 18 — — "O" KEY MAY WORK PROPERLY AT TIMES

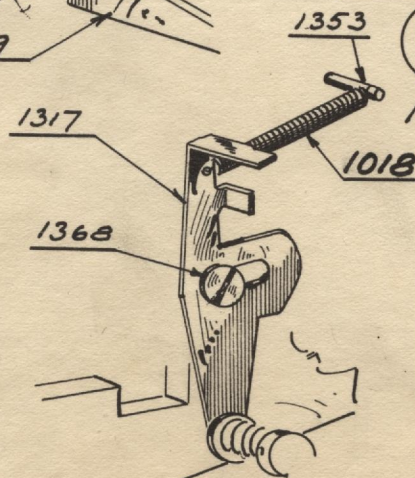


30

IF SPRING 1012 IS UNHOOKED

DEPRESSING THE MULTIPLIER KEYS WILL HAVE NO EFFECT — AND THEY WILL NOT STAY DOWN.

IF "O" KEY IS DEPRESSED AND LATER THE PLUS OR MINUS BAR IS OPERATED — THE MACHINE WILL RECEIVE AN IMPULSE FROM THE MOTOR — BUT WILL NOT ROTATE.



31

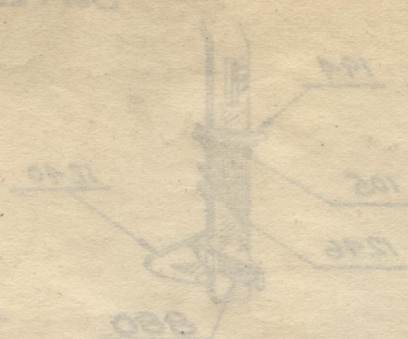
IF SPRING 1018 IS UNHOOKED —

CARRIAGE WILL NOT SHIFT IN MULTIPLICATION.

J. M. Smith
April 8th 1927

Mr. R. W. Suddard,
Toledo, Ohio.

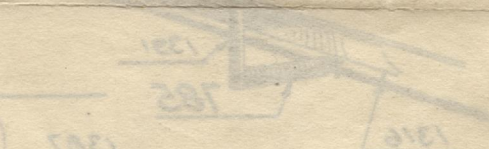
27



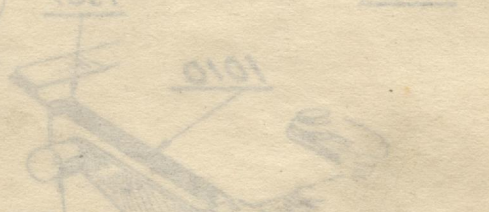
28



29



30



31

